

521,844

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
**WO 2004/008647 A2**

(51) International Patent Classification<sup>7</sup>:

H04B

(74) Agent: SHINSUNG PATENT FIRM; Haecheon Bldg., 741-40, Yeoksam 1-dong, Kangnam-gu, Seoul 135-924 (KR).

(21) International Application Number:

PCT/KR2003/001412

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:

16 July 2003 (16.07.2003)

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language:

Korean

Published:

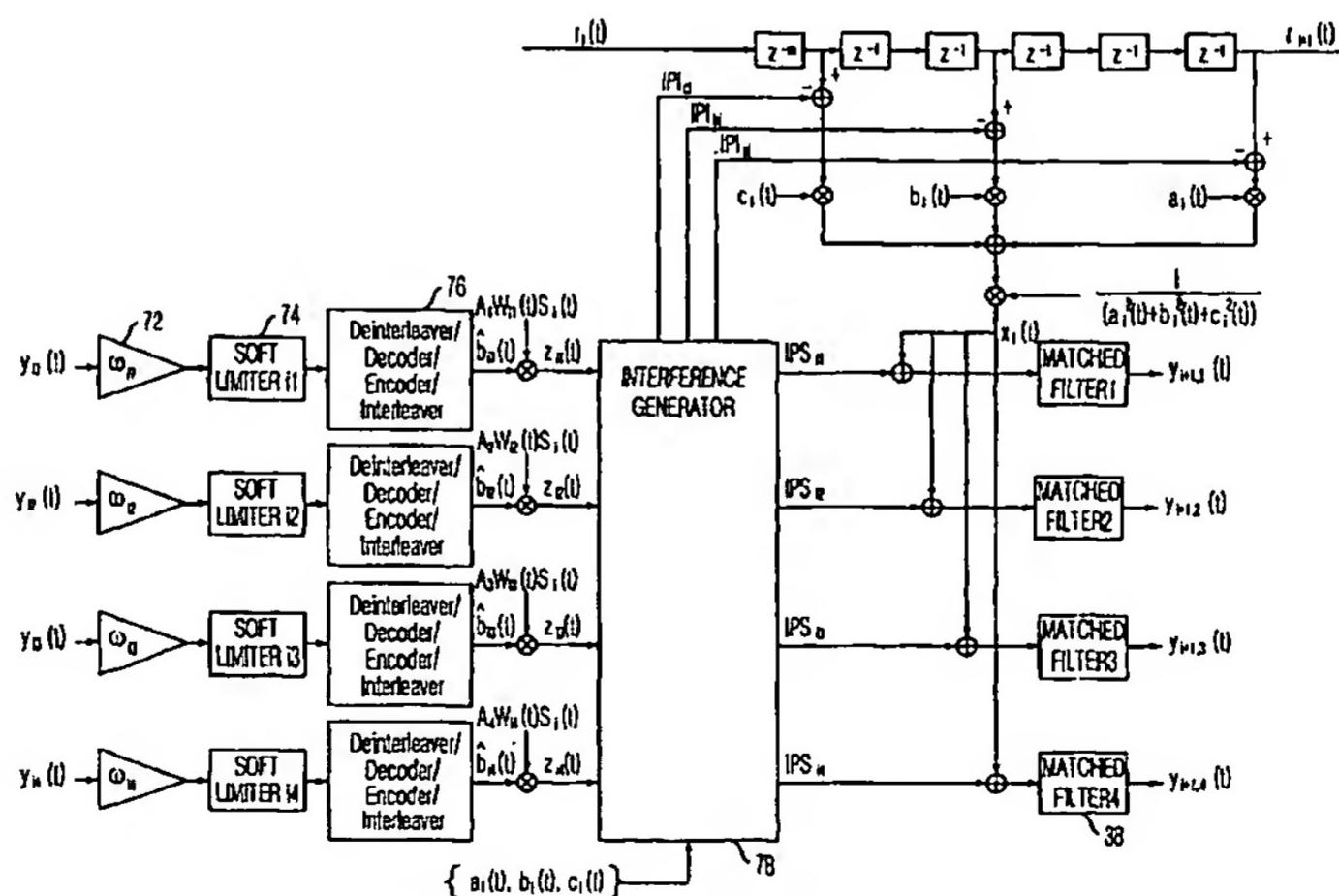
(26) Publication Language:

English

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: MULTISTAGE ADAPTIVE PARALLEL INTERFERENCE CANCELLER



(57) Abstract: A multistage adaptive parallel interference canceller is disclosed. The multistage adaptive parallel interference canceller for a downlink receiver includes: a plurality of stages of interference cancellation units. Each of interference cancellation units includes: a matched filter for matching a signal from a rake receiver each channel signal and generating a matched signal; a soft decision unit of which a slope is monotonically increased, for performing soft decision of the matched signal and generating a soft-decided signal; a weight controller for controlling the slope of the soft decision unit; a respread for respreading the soft-decided signal based on a walsh code and a scrambling code and generating a resspread signal; an interference calculator for calculating interference signals due to another user signal and multipath signals; and an interference canceller for canceling the interference signals from an input signal received in the rake receiver.

WO 2004/008647 A2